

Claims

What is claimed is:

1. A rotatable machine (1) having first and second ends, said machine (1) comprising a chamber (2) and a shaft (3), said shaft (3) mounted in said chamber (2) such that, upon rotation of said shaft (3) and said chamber (2), said shaft (3) and said chamber (2) each rotate about the same axis (4), a first motor (20) for driving the chamber (2) and a second motor (30) for driving the shaft (3), each said motor (20, 30) having an axis, wherein the axes of the first and second motors (20, 30) and the axis (4) of rotation of the chamber (2) and of the shaft (3) are coincident.
2. The rotatable machine (1) according to claim 1, herein the first motor (20) and the second motor (30) are both permanent-magnet synchronous motors comprising permanent magnets (22, 32).
3. The rotatable machine (1) according to claim 1 or claim 2, wherein the first and the second motors (20, 30) are both located at the same end of the machine (1).
4. The rotatable machine (1) according to claim 3, further comprising a casing (50) containing both said first and said second motors (20, 30).
5. The rotatable machine (1) according to claim 1, further comprising first and second shafts (10, 11) adapted for driving the chamber (2) and the shaft (3), respectively, wherein said shafts (10, 11) are concentric and are push-fitted directly into corresponding rotors (21, 31) of the respective motors (20, 30).

6. The rotatable machine (1) according to claim 1 or claim 2, in which the first and second motors (20, 30) are placed one at each end of the machine (1).

7. The rotatable machine according to claim 1, wherein
5 said machine is a centrifuge in which the chamber comprises a bowl and the shaft comprises an endless screw.

8. A centrifuge (1) having first and second ends, said centrifuge (1) comprising a bowl (2) and an endless screw (3), said endless screw (3) mounted in said bowl (2)
10 such that, upon rotation of said bowl (2) and said endless screw (3) said endless screw (3) and said bowl (2) each rotate about the same axis (4), a first motor (20) for driving the bowl (2) and a second motor (30) for driving the endless screw (3), each said motor (20, 30) having an
15 axis, wherein the axes of the first and second motors (20, 30) and the axis (4) of rotation of the bowl (2) and of the endless screw (3) are coincident.

9. The centrifuge according to claim 8, wherein the first motor (20) and the second motor (30) are each
20 permanent-magnet synchronous motors comprising permanent magnets (22, 32).

10. The centrifuge (1) according to claim 8 or claim 9, wherein the first and the second motors (20, 30) are both located at the same end of the centrifuge (1).

25 11. The centrifuge (1) according to claim 10, further comprising a casing (50) containing both said first and said second motors (20, 30).

12. The centrifuge (1) according to claim 8, further comprising first and second shafts (10, 11) adapted for

driving the bowl (2) and the endless screw (3), respectively, wherein said shafts (10, 11) are concentric and are push-fitted directly into corresponding rotors (21, 31) of the respective motors (20, 30).

- 5 13. The centrifuge (1) according to claim 8 or claim 9, wherein the first and the second motors (20, 30) are placed one at each end of the centrifuge (1).

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